

Industrial Applications of Cavity-Enhanced Spectroscopy Instruments

Alejandro Farinas

Picarro, Inc.

This lecture will focus on the commercialization of analytical instruments based on cavity-enhanced spectroscopy (CES). CES technologies offer numerous benefits when compared with incumbent solutions, and these will be described in detail. I will also touch on how the design of commercial CES instruments is constrained by required function and measurement goals. These topics will be supported via relevant case studies of CES techniques as applied to industrial applications. These applications include industrial emissions monitoring, process control, and safety; with particular reference to semiconductor manufacturing and continuous emissions monitoring for compliance. In addition to an expanding array of commercial applications, commercial CES instruments continue to be applied to scientific tasks. These types of applications, such as the deployment and management of large-scale greenhouse gas monitoring networks, will also be discussed.